

23-133
General File

(167)

June 17, 1974

A-13

OK
SUBJECT: Sun Oil Company-
Marcus Hook Borough, Delaware County

TO: File 23-133

WV
FROM: Frank J. Willard, Jr.
Regional Air Pollution Control Engineer
Norristown Regional Office

On May 28, 1974, Mr. Gerry Blahut and Mr. Frank J. Willard, Jr. met with Mr. A. B. Chieffo, of the Sun Oil Company, to discuss the status of the air pollution control program at the Marcus Hook Refinery of the company. The discussion involved:

1. Variances.

- (a) Petition #1 10-4 Catalytic Cracking Unit/CO Boiler Compliance date 4/1/73. New precipitator under construction at time of submittal of variance petition. Strike of 1973 caused delay until 12/73.

Two letters are missing from the file(1) Hambright's letter confirming that no variance order will be issued for Petition #1 and that the precipitator is expected to be in compliance by 12/31/73.

(2) Willard's letter of request for compliance information by 5/31/74.

The company's January 1974 report of progress indicated that tests had shown the efficiency of the precipitator to be below guarantee and that short circuiting and failure of the insulators together with a build-up of fines had caused numerous delays for repairs.

Final date of 12/31/73 for completion of this unit had been agreed by Hambright per Chieffo's letter of August 28, 1973. Gerry Blahut visited plant in April 1974 and remarked that the new precipitator was down due to the necessity of cleaning fines from the collection system. Smoke of 40-60 percent opacity was observed but not recorded. The company was ready to start a new auxiliary boiler to eliminate the bypass.

Willard's letter of May 8, 1974 requested information on the particulate sampling on the new precipitator to determine compliance. If not in compliance, Department will take action.

The company stated that due to the buildup of fines in the collection hopper from the bag filter, the control system was not operating as efficiently as it could. Moisture was also posing a problem. The company will have to spend approximately \$480,000 for a new system to collect the fines, and to insulate the collection lines and hopper.

The source testing of the stack indicated an average of 120 pounds per hour of particulate. Compliance should show 48 pounds per hour. The system is presently less efficient than the older Buell precipitator which, when tested previously, showed 65 pounds per hour particulate emissions. At present, the new and old precipitators are in parallel with 70 percent of the input going to the new Cottrell unit.

The company intends to apply for a variance for the FCC, indicating that the precipitator was completed by 12/31/73 but that difficulties in performance prevented achieving compliance with the provisions of Chapter 123. The company claims that the failure was beyond its control and may request the variance until May 1975. The company will reply to Willard's letter of May 8, 1974 by May 31, 1974.

The Department suggested that temporarily the company might consider directing the greater amount of the inlet emissions to the Buell precipitator in order to get the maximum reduction. The company roughly figured that this might result in a reduction of 40 pounds per hour from the present 120 per hour tested average. Any further stack test for the determination of compliance shall be reviewed by the Department for procedure acceptance prior to the conduct of the test. Plan approval under Chapter 127 shall be submitted to the Department for the revamping of the FCC control systems.

- (b) Petition No. 2. FCC (10-4) sulfur oxides emissions. Order No. 74-915V. This petition is under appeal to the hearing board. Frances Dubrowski, Esq. of the Philadelphia Strike Force requested that this item not be discussed with the company at this meeting.

- (c) Petition #3. Plant 12 Claus Sulfur Recovery Unit. SO₂ in tail gas. Date of compliance 7/1/73. The January 16, 1974 letter from Hambright to Mr. Hallmark acknowledged withdrawal of Petition #3, since the unit was no longer in operation and the waste gases have been directed to Allied Chemical's - Delaware plant.

Blahut has checked this item out. The company assured the Department that this unit will be removed from the premises. Unit in compliance.

- (d) Petition #4. Benzene Tank Truck Loading Facility. (Order 74-917V?) Expected compliance 12/31/72. Incorporates new loading schedule and temperature control. Challenges Chapter 129, 20,000 gallons per day.

An amended request of 8/27/73 asked for an extension to 12/31/74.

No record of variance order being issued. The proposed limitation of sales and thus restricting below 20,000 gallons per day did not suffice to do the job (letter of 8/24/73). Would need to 12/31/74 if cooling facilities required. The company report of 1/1/74 stated that vapor control-condensation and collection was being reviewed.

The company stated at the meeting that revamping the unit or relocating and installing a new loading rack was being considered. A meeting on the problem was to take place on May 28, 1974. Mr. Willard informed the company that he would find out if the petition was lost and will ask for hold on it until a plan is submitted. Feedback from Harrisburg will determine if correspondence is necessary for approval. Department request that plan be submitted by 6/30/74 accepted by company. Will write to company on the matter. No extension of the variance request will be recognized beyond May 31, 1975.

- (e) Petition #5. Plant 15 Boilerhouse (5 boilers) for SO₂ emissions. Violation of Section 123.22. Company letter of August 24, 1973 indicated that a computerized program for a combination of fuels had been established. The program relates to:

1. steam content
2. S content of fuel
3. fuel requirement

The gas used averaged 0.08 percent sulfur by weight and the fuel oil ranged between 0.65 - 1.05 percent by weight. Records of S content and desired and actual feed rates are kept in the files of the boilerhouse and are available for Department inspection.

Company letter of 8/28/73 requested that variance be withdrawn. Hambright letter of 1/16/74 acknowledged withdrawal and stated that boilers must now be in compliance. Subsequently the company submitted a fuel usage variance request.

The fuel usage variance for the Plant 15 Boilerhouse 74-930-F was issued 1/25/74 and was good until 5/22/74. The company has issued periodic reports to the Department on the S content of the fuels used.

Company letter of 5/15/74 to Clark Gaulding indicated that the plant has been in compliance since 4/25/74 and is presently operating under fuel blending program submitted with the temporary variance withdrawal request. The company no longer requires a fuel usage variance.

- (f) Petition #6 Plant 15 Powerhouse 2 boilers BH5 and BH6. Violation of Chapter 123.22 for SO₂ emissions. Company was burning vent gases from 17-1A. The new saturate gas plant processes these gases and they do not have to be burned. Letter of 8/24/73 states that BH5 and BH6 now under same fuel blending program as other boilers. On 8/28/73 the company requested withdrawal of petition #6. Hambright's letter of January 16, 1974 acknowledged withdrawal and expressed expectation that the units are now in compliance. These units were temporarily included in the fuel usage variance mentioned above.

The Department will re-visit the refinery to check out the boilerhouse records.

- (g) Petition #7. Department Order 74-921V. Plant #15 Boilerhouse. Violation of Chapter 123.41, visible emissions. At the time of issuance of variance it was questionable as to whether or not such emissions could be granted a variance. The variance granted until September 19, 1974 for compliance. Gerry Blahut states in his report that the company would request a withdrawal of the variance. The company is adjusting its soot blowing schedule to secure conformance. The variance was appealed on general grounds but was withdrawn on May 3, 1974.

The Sun Oil Company will supply the Department details of the method of S analysis used on the fuel oil. The company also stated that a letter of withdrawal of the petition had been sent.

- (h) Petition #8. Department Order 74-922V. Same as petition #7 except that it relates to the Powerhouse. Facts are the same. Letter has been sent for withdrawal.
- (i) Petition #9. Department Order 74-919V Oil Water Separators. Violation of Chapter 129.4. Volatile Organic Compounds from Water Separators. Compliance date December 31, 1974.

Company letter of 8/28/73 requested an amendment indicating that 12/31/75 would be the compliance date. By agreement this was changed to May 31, 1975.

Company report of 1/1/73 indicated that Pilkenrod Corrugated Plate Interceptor would be installed with vapor tight cover on 15A, B with start-up scheduled for February 28, 1974.

Company report of 4/5/74 indicated that a study of the performance of the corrugated plate interceptor was still in progress.

Company appealed Department order on general principles and the appeal was withdrawn on May 3, 1974.

Plan approval 23-312-029 was issued for the Corrugated Plate Interceptor. The company has since re-evaluated the water separators and is reactivating new ones for run-offs to relieve back pressure.

The company will send the Department a letter that in order to relieve back pressure etc., it is necessary to utilize 9A, B, C separators continuously. Therefore, it will request that 9A, B, C be included in Petition #9 (74-919V) and that letter be included in Exhibit "A" of the order. Date of compliance will be the same as the others scheduled for the installation of API covers. A change of dates for the installation of the covers will also be made within the next two weeks and the company will submit plans, under Chapter 127, for all separators. If the letters precede the next progress report, fine. If not such information for each unit shall be included in the next progress report.

- (j) Petition #10. Department Order 74-918V
Storage of Organic Compounds. Section 129.2.
Compliance on or before May 31, 1975. A list
of tanks has been supplied, too numerous for
purposes of this report. True vapor pressure
is at actual storage conditions and is taken
with a Reich vapor pressure apparatus
correctable at 100°F. Thus, conversion of
the Reid pressure gives the true vapor pressure.

The order was appealed as general principles but
withdrawn on May 3, 1974. The company will send the Department
its method of test of vapor pressure. The company will report
later on more intensive input on storage tanks and plant will
be revisited to inspect as many tanks as possible.

Application 23-312-046 received 6/3/74 concerning
Tanks 353, 354, 355, 357, 358 and 359.

Application 23-312-044 received 4/11/74 covers tanks
101, 230, 231, 237, 239, 383, 385, 387, 389, 390 and 593.

Tanks will be checked by Department and progress noted
on a return visit.

- (k) Petition 11. Wax Percolation. Filter Plant.
Compliance 9/19/74. Petition was withdrawn
on August 28, 1973. Hambright's letter of
1/16/74 acknowledged withdrawal. The company
still has no knowledge of the future status
of this operation. The company is doubtful
if this is compliance or not. If determined
that it is not in compliance - no variance
will be granted. Rather the Department
should negotiate a consent order with penalty.

- (1) Petition 12. Department Order 74-916V.
Asphalt Oxidation. Odor emissions.
Section 123.31. Compliance by March 19, 1975.

The company had been investigating various methods of
control. On 1/1/74, the company report indicated that scrubbing
of the emissions was impractical and it was believed that steam
dilution prior to incineration may be the preferred method.

The company appealed the order on general principles
but withdrew it on May 3, 1974. The company is presently
reviewing the proposed plan and should have more information
within the next two weeks in time for the next anticipated
meeting.

- (m) Petition 13. Pumps and Compressors.
Section 129.5. Hambright letter of 2/22/74 indicated approval of the maintenance program but no variance necessary. The company is to correct any leaks immediately or face prosecution.
- (n) Petition 14. Barge and Ship Loading.
Section 129.3. Volatile Organic Compound Storage. Hambright's letter of 2/22/74 gives the same consideration to this as the Department gave in Vanport Terminal case. There shall always be a liquid and vapor tight seal between the loading lines and vessel during loading. Company shall conform to the U. S. Coast Guard Regulations. No vapor recovery needed.
- (o) Petition 15. Department Order 74-920V.
General Refinery odors. Chapter 123.31.

Progress reports have identified the major sources of odors as those for which variance orders were given. The company believes that with the compliance with Department Regulations, most of the odor problem will be resolved.

Order was appealed but withdrawn on May 3, 1974.

The Department suggested that sometime between 7/1/74 and 5/31/75, the compliance date of the order, the Department and company draw-up an understanding of the word "malodor" and the enforcement of that section of Chapter 123.

By 5/31/75 the company is to submit a plan for control of extraneous odors.

1. Maintenance prevention.
2. Incident prevention.
3. Major incident prevention with notification of the Department.

- (p) Petition 16. Plant 10 Flare Stack. Visible emissions. Section 123.41.

Hambright's letter of 2/22/74 indicated that Department would issue no variance. Plant shall be in compliance except during emergency conditions when the company shall notify the Department immediately when the emergency arises.

Summary

- SWMC
- (q) Petition 17. Plant 12 Flare Stack. Visible emissions. Section 123.41.

Hambright's letter of 2/22/74 indicated that Department would issue no variance. Plant shall be in compliance except during emergency conditions when the company shall notify the Department immediately when the emergency arises.

2. Emission Inventory

No print out is in office. Blahut will check and see why not. If not-hold because information may be outdated. New emission inventory necessary by September or October 1974. Will discuss at next meeting.

3. Fuel usage variance

Held until next meeting on plant visit. No time to discuss this at this meeting.

4. Plan applications

Hold until next meeting.

5. Plant inspection

Held over until next meeting if time allows. If not, schedule for another date.

FJW/dg